TSR ENGINEERING COMPANY

AFFILIATE OF McCARTY BROS., INC.

January 3, 1984

U.S. EPA
230 South Dearborn
Code 5HR
Chicago, Illinois 60604

Attention: Mr. Michael O'Tool

Dear Mr. O'Tool:

Subsequent to our Mr. DeGrenier's earlier contact with you, and his direction by your office to the State Attorney's office, we have processed a small test batch of cyanide tainted chips. These preliminary laboratory scale tests proved out the feasibility of our system. Copies of all correspondence are attached hereto for your information.

Since our approach consists of detoxifying the plastic chips by destroying the cyanide and not by attempting to burn the plastic or cyanide, there is no possibility of air pollution. In light of the recent uproar in Naperville about even a test burn, you may want to take another good look at TSR's technology.

Would you please advise us as to what should be our next step. Thank you.

Very truly yours,

TSR ENGINEERING COMPANY

Peter L. Veit

Peter L. Veit
President

PLV:lm
Enclosures

2600 LEXINGTON STREET • BROADVIEW, ILLINOIS 60153 • (312) 345-8950

November 23, 1983

Mr. Joseph Drazek, Attorney
Environmental Control Division
Illinois Attorney General's Office
100 North LaSalle Street, Room 900
Chicago, Illinois 60601

SUBJECT: Cyanide Contaminated Film Chips

Dear Mr. Drazek:

This letter is written as a result of a lengthy telephone conversation between your attorney, Tom Boracki, and our Mr. Ed De Grenier. Mr. Boracki suggested that we present ourselves in written form addressed to your attention.

TSP Engineering Company, and particularly the writer, has over 30 years of experience in working with various cyanide solutions, both in heat treat and plating fields. We have developed what we consider to be a safe, economical method of detoxifying the film chips left by the faulty silver recovery processes. The enclosed letter addressed to Mr. O'Toole of the EPA discusses our interest in this regard.

In their conversation, Messrs. Boracki and De Grenier discussed the possibility of our obtaining a small quantity, one to two pounds, of the contaminated chips to be processed through our system, and to return to you (or any other authority designated by you) for confirmation that all cyanides have been eliminated both from the surface and interior of the film. If you prefer, arrangements can be made to have such analytical data on the processed chips developed by an independent laboratory. Together with the returned film chips, we propose to return a quantity of the final rinse water used in the process. This will again confirm total elimination of complexed or non-complexed cyanide.

Please note that our technology, unlike incineration, will carry absolutely no risk of air pollution, such as might be incurred with improper control during the burning of the so-called "safety film."

In fact, there is a possibility, as yet unconfirmed, that the detoxified chips may be of some interest to the film manufacturers as a raw material. We are now pursuing investigation of that aspect. Otherwise, the detoxified chips can go to a conventional landfill.

If you, indeed, are the proper person to deal with this matter, we would be delighted to visit your office at your convenience to discuss a test program. If not, perhaps you would be so kind as to direct us to the proper persons or forward this letter to them.

Initial testing of the small, one to two pound quantities would be on a no-charge basis. A larger production test, which would be witnessed by your appointees, of 100 to 200 pounds would carry a nominal charge of less than $10,000.

Very truly yours,

TSP ENGINEERING COMPANY

Peter L. Veit
President

PLV/val

Enc.

cc: Mr. Thomas Boracki
Mr. Ed DeGrenier

TSR ENGINEERING COMPANY

AFFILIATE OF McCARTY BROS., INC.

December 12, 1983

Mr. Joseph Drazek, Attorney
Environmental Control Division
Illinois Attorney General's Office
160 North LaSalle Street, Room 900
Chicago, Illinois 60601

Dear Mr. Drazek:

As a result of my letter to your office of November 23, 1983, and a subsequent telephone conversation with our Mr. Ed DeGrenier, arrangements were made to pick up a quantity of the cyanide contaminated film chips for initial processing tests by our company. This was accomplished, and Mr. DeGrenier picked up samples at the former Alden Company parking lot. The samples were taken directly from one of the trailers. We immediately established that the samples taken were cyanide contaminated.

A quantity of these chips have been processed employing our technology. Test results indicate that the approach taken is practical and feasible. The chips detoxified by our process will be no different than any other plastic, such as for example, plastic garbage bags, liquid food containers, plastic soda pop bottles, etc., and can go directly to a conventional garbage dump or landfill.

As stated earlier, our technology will consist of detoxifying the chips, not burning the plastic. Thus there is no possibility of either air pollution from incomplete combustion, or of any fine cyanide particles being carried through the furnace on the hot air or hot gas stream and being discharged to the environment before the cyanide is completely incinerated.

It might be pointed out, that while cyanides are commonly and safely used in industry on a regular basis, what makes this particular product so hazardous is the fact that the chips are of various sizes, ranging from one half inch and down to minute particles. This makes them very subject to being scattered by air movement or over-vigorous handling. A wet process such as ours would minimize the tendency for contamination from this source. Furthermore, as you probably know, sodium cyanide does demonstrate considerable stability at higher temperatures, as is evidented by the fact that molten sodium cyanide salts have regularly been used in heat treat processes. Sodium cyanide has a melting point of approximately 1040°F and a boiling point of approximately 2700°F.

We are presently holding a quantity of the detoxified chips as well as the final rinse water in our office. These would gladly be submitted to your office, or any laboratory which you might designate for evaluation of the completion of the detoxification process.

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TSR Engineering is prepared to set up and operate a disposal plant for detoxifying these chips, under contract to you and/or the EPA. The plant would consist essentially of four areas.

A. A sealed receiving and holding bin for the incoming chips. These would be transported to that bin in sealed vehicles. Naturally, all exhaust air and/or possible handling dust from such a bin, and from the transport vehicles, will be run through air filters and a caustic fume scrubber in order to remove any air born cyanide contamination which might jeopardize either the environment or the workers.

B. A wet process treatment area for the complete destruction of the cyanide. This includes both the cyanide present on the surface of the chips and that absorbed in the film itself. Please note that all of the process solution and all rinses other than the last final rinse will be in a series of closed loop recirculation systems. Thus nothing containing cyanide can ever be directed to the environment.

C. A final storage and drainage area where individual batches can and will be sampled and tested before haul away to the final disposal site.

We are looking into the possibility of reclaim value of the film itself. However, the sample picked up at Alden is so heavily contaminated with paper and other tramp materials, that its reuse value at the moment is questionable.

D. A quality control laboratory to maintain the solutions and make all necessary tests on the product.

In his conversation with your office, Mr. DeGrenier was asked about the approximate costs of our operation. These operating costs will vary somewhat depending upon the actual quantities of material to be treated. At various times, we have alternately been given figures of 127 trailers, 17 million pounds, and 14 million pounds. This appears to represent some form of discrepancy. With 17 million pounds, divided among 127 trailers, a loading of 134,000 pounds per trailer would be indicated. This is over three times the normal and legal over-the-road limitation in this state. While the operators of the silver salvage plant apparently were not concerned about either safety or legalities, it is rather doubtful that they could indeed have hauled such loads in the rather decrepid equipment used. Since the cost per pound for treatment includes the setting up and amortization of the equipment over the duration of the project, as well as labor, rent, chemicals, power, hauling, final disposal, as well as the ultimate decommissioning of the plant, the exact quantities to be treated will materially affect the price per pound.

As a preliminary guideline we could safely estimate a cost ranging from 20c - 45¢ per pound including the shipping to the central treatment plant from Chicago and Dixon and shipment to the final dump.

It would be very much appreciated if you would advise the writer of the next step which should be taken, ie. whether you would like us to submit the samples of processed chips to your office, or to some independent or state laboratory.

Thank you very much for your consideration.

Very truly yours,

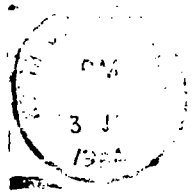
TSR ENGINEERING COMPANY

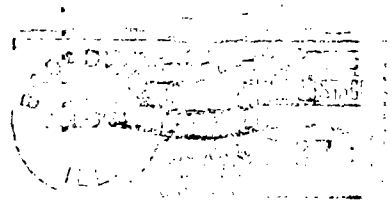
Peter L. Veit
President

PLV:lm

cc: Thomas Boracki
Ed DeGrenier

TSR ENGINEERING COMPANY
2600 Lexington Street
Broadview, Illinois 60153





Mr. Michael O'Tool
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